Science Institute of the Northwest Territories Annual Report

1988-89

Never have science and science education been of greater importance to the people of the Northwest Territories. Think of the topics that have dominated our news in the last year: PCB's at Broughton Island, a proposed uranium mine near Baker Lake, holes in the ozone layer, "sustainable development," climate change. To deal well with any of these issues, we as citizens require a solid grasp of basic scientific concepts and access to the best information that current research can provide. For our children, faced by the complex challenges of the twenty-first century, these needs will be even more acute.

Through this report, the Science Institute invites you to take a closer look at the status of northern science and to begin considering ways in which you -- as a student, parent, citizen, community leader or professional -- can participate in the development of a strong scientific community in the N.W.T. We also hope that you will take a close look at the work of the Institute, as it is described in these pages. If you have comments about any aspect of our activities, we would be delighted to hear from you.

Take a closer look!

Under new management

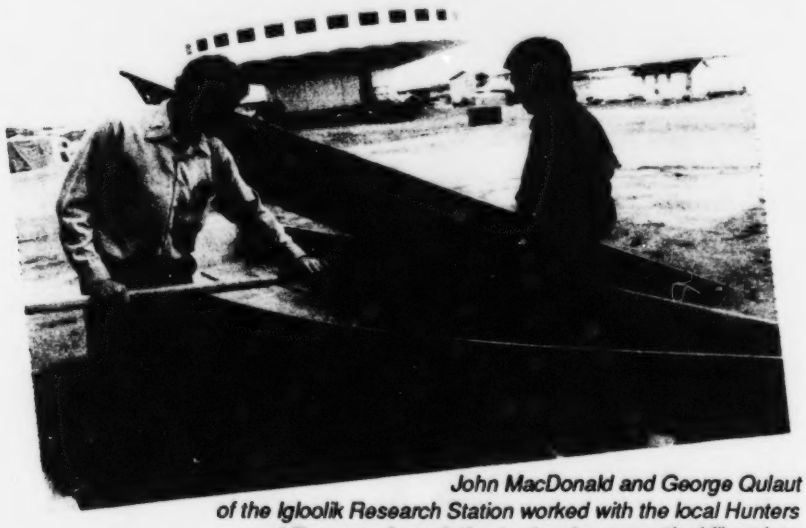
On November 1, 1988, the Scientific Research Stations in Iqaluit, Igloolik and Inuvik were transferred to the Science Institute from the federal Department of Indian and Northern Affairs, together with 10 staff positions and an annual budget of $1.1 million.

• As they have throughout their 25-year history, the centres continue to offer technical and logistical assistance to researchers who undertake studies in the N.W.T. In 1988-89, support was provided to 210 researchers whose projects spanned an amazingly wide range of interests, from an investigation of Russian grasses that are invading northern Canada, to an historical study of the sexual division of labour in traditional Inuit life.

• The Science Institute is committed to maintaining and improving services to researchers. One significant step in this direction was the hiring of Bob Longworth, manager, and Paul Irngaut, technician, as the first full-time staff of the Iqaluit Research Centre.

• These new employees, together with staff in Yellowknife, Inuvik and Igloolik, will also share the responsibility for initiating programs to make the centres increasingly responsive and relevant to the people of the N.W.T. For example, the Institute will seek to collaborate with community groups, taking as our model the partnership between the Igloolik Research Centre and HTA, which have worked together to develop a fiberglass boat for hunting at the floe-edge.

• We also plan to begin offering information and education programing through the three centres. When Dr. Larry Dyke, a geologist from Queen's University, became the first researcher to spend his sabbattical at the Inuvik Research Centre, his work included not only research but also the preparation of a geological field guide to be used by local teachers and students. Many more projects of this type will be undertaken in the months to come.



John MacDonald and George Qulaut of the Igloolik Research Station worked with the local Hunters and Trappers Association to develop a practical fiberglass boat for hunting at the floe edge.

Calling all businesses!

An Iqaluit business, which produces ice cream and reconstituted milk for sale in the Baffin region, wanted to expand its product line. But there were problems. For their business to succeed, they needed to learn about small-scale production techniques and improved packaging. That's where IRAP came in.

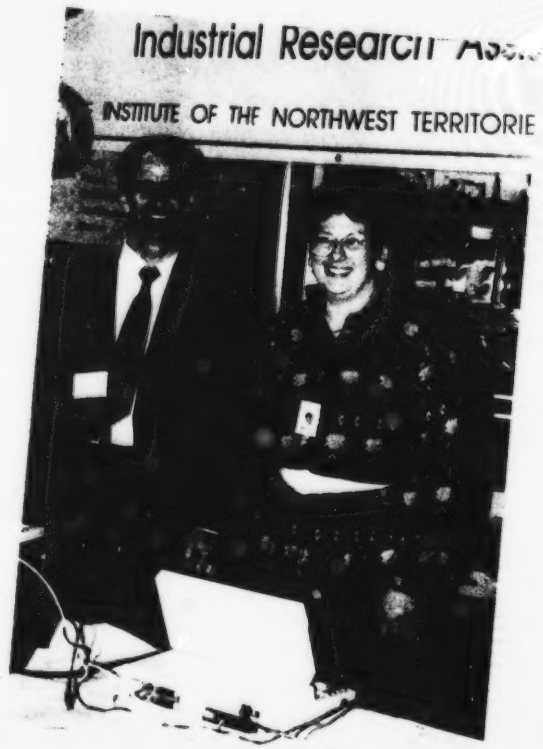
• IRAP is the Industrial Research Assistance Program. It became available in the N.W.T. early in 1989 as a joint project of the Science Institute and the National Research Council. IRAP exists to help small- and medium-sized businesses improve their use of technology.

• Success in business calls for more than hard work and good management. It also requires the application of the best available technology. Canada has substantial scientific and engineering expertise in government laboratories, specialized research centres, universities, and consulting and engineering companies. There are even larger pools of technology abroad. Through IRAP, businesses are able to put this technical expertise to work.

• IRAP assists manufacturing, resource, construction and service industries by providing free consulting services, specialized information and funding for special projects. In the case of the Baffin firm, for example, IRAP helped select and hire a food-technology consultant -- the Technical Resource Group from Uxbridge, Ontario -- to find solutions.

• For more information about IRAP, please call Craig d'Entremont, Yellowknife, 403-873-7592; Lynda Wilson, Fort Smith, 403-872-7500; Andrew Romolina, Inuvik, 403-979-2556 or Christine Tanner, Iqaluit 819-979-4051.

• In a related initiative, the Science Institute has also begun planning a Technology Development Centre for the N.W.T. , which will demonstrate new ways of creating and assisting technology-based businesses in the N.W.T.



Craig d'Entremont, the Institute's Industrial Technology Advisor, and Karon Tolonen of the Alberta Research Council, explained the IRAP program to members of the business community at Yellowknife's annual Prospects North trade show.

What is the Science Institute of the N.W.T.?

The Science Institute of the Northwest Territories was created by the Legislative Assembly, with the task of ensuring that the people of the Territories obtain the maximum possible benefit from science and technology.

• Last year, 1988-89, was our third full year of operation. The Institute receives core funding from the G.N.W.T. and has a responsibility to report annually to the Legislative Assmebly through the Government Leader. The Institute operates independently of government under the direction of a public board, which includes representatives of the general public and the scientific community in approximately equal numbers.

• In 1988-89, the following people served on the Science Institute board: Dr. Jim Harrison, geologist, Ottawa, chairman; Mr. Bob Hanson, businessman, Iqaluit, vice-chairman; Ms. Joanne Barnaby, Dene Cultural Institute, Yellowknife; Ms. Elizabeth Crawford, teacher, Inuvik; Sally Kusugak, Iqaluit; Dr. Ross Mackay, geographer, Vancouver; Dr. Ernie Pallister, oil-industry consultant, Calgary; and Dr. Otto Schaefer, health researcher, Edmonton. Dr. Mackay and Dr. Schaefer, who served on the board with commitment and passion, completed their terms in July, 1989.

• Another significant departure from the board came with the retirement of the chairman, Jim Harrison, after many years of dedicated service to the Institute and its predecessor, the Science Advisory Board. We have recently learned that another extremely well qualified person, Mr. John H. Parker, has agreed to take on the duties of Institute chairman for a three-year term.

• Instead of its regular two gatherings, the board held only one and a half meetings in 1988-89! Thanks to a Keewatin blizzard, only half the board members were able to attend a meeting in Rankin Inlet in February. All the same, the event was a notable success, which featured an afternoon of stimulating discussion with representatives of regional agencies and organizations; presentations by G.N.W.T. nutritionist Louise Poole on contamination of country food; and the first Science Olympics in the N. W.T., held at Maani Ulujuk School. Watch for us in Inuvik this fall!

• The day-to-day work of the Institute is carried out by the staff, which grew from five to seventeen in 1988-89, largely through the acquisition of the Research Centres in Inuvik, Igloolik and Iqaluit. For more information about the activities of the Institute, please call our offices in Yellowknife, (403) 873-7592 ; Inuvik, (403) 979-3570; Igloolik, (819) 934-8792; or Iqaluit, (819) 979-4681.

SCIENCE INSTITUTE
OF THE NORTHWEST TERRITORIES

4th Floor, P. O. Box 1617, Yellowknife, N. W.T. X1A 2P2
Phone: 403-873-7592; iNET: SCINT.NWT ; Fax: 403-873-0227

Yellowknife staff: (back row left to right) Craig d'Entremont, Candace Savage, Anna Dwyer, Bob Janes (front row left to right) Denise Sherritt, Laurie Nowakowski, Susan Fleck (missing, Dave Sherstone).
Iqaluit staff: Bob Longworth, Paul Irngaut. Inuvik Staff: John Ostrick, Maurice McRae. Igloolik staff: John MacDonald, George Qulaut, Maurice Arnatsiaq.

Meeting emerging needs

The Executive Director of the Science Institute serves as Science Advisor to the Government of the N.W.T. This involves us in a variety of tasks, including the issuing of Scientific Research Licences. The purpose of licencing is two-fold: to ensure that researchers communicate with northern residents before they begin their research and, to collect information about current research so that it can be circulated in the N.W.T. In 1988-89, 153 licences were issued, and a listing of the projects, with a brief, plain-language description of each, is being prepared.

• The Science Institute has also become involved in a variety of other activities, as it attempts to respond to emerging needs. For example, we participated in the implementation of the North of 60 Program, a federal fund that provides money to professionals and communities who wish to study medical and health-care problems in northern Canada. Concurrently, the Institute is developing a small Medical Research Trust Fund of its own.

• We also assisted with the public hearings on the proposed Kiggavik uranium mine, by sitting on the committee that adjudicated funding requests from groups that wished to prepare formal presentations.

• Working in collaboration with the Northern Heritage Society, the Dene Cultural Institute and representatives of several G.N.W.T. departments, the Science Institute recommended to the Government Leader that the territorial government begin to seek ways of recognizing and applying aboriginal traditional knowledge.

• Our other involvements in 1988-89 are literally too numerous to list. Amongst the most significant were the chairmanship of the Rayrock Advisory Committee, which is overseeing the cleanup of an abandoned uranium mine; participation on the adjudication committees of the Northern Scientific Training Program, which provides research funds to advanced university students; and of Science Culture Canada, which grants money for science-awareness projects across the country; and membership on the Circumpolar Studies Network and on the Science Council of Canada's study committee on science and technology for northern economic development. In addition, a member of our staff conducted ice research on behalf of the Hay River Flood Committee, and the Executive Director served as vice-chairman of the Arctic Institute of North America.

More and better science fairs

The N. W.T. put itself on the national science fair map in 1988-89, when Yellowknife students Allison Marshall and Chris Harvey won prizes at the Canada Wide Science Fair, with a project on the application of solar energy in the North. Other students who represented the N.W.T. at the national level were Adrian Rivalis of Ilitsijaqturvik School in Baker Lake, David Fredlund of Maani Ulujuk School in Rankin Inlet and April Laidlaw and Mia Kieken from Inuvik. The Science Institute helped to pay for the students' travel.

• The Institute also assisted the development of local and regional science fairs in the N.W.T. by offering small grants to first-time fairs, providing a free Dial-an-Expert service, and distributing display cardboards for use by students in presenting their work.

• We also published a book entitled *Science Alive! a science fair idea file for teachers in the N.W.T.*, which went to every teacher in the N.W.T. and Yukon. In addition, we produced a how-to kit for teachers entitled *Why do walrus turn pink? a guide to northern science fairs*, which will be distributed in the fall.

• The Institute sponsored Sean Rivalin of Inuvik at the Shad Valley Program for gifted teenagers, the "school for scientific entrepreneurs". We also provided funding to permit David Akeeagok of Iqaluit to study archaeological techniques at the University of Calgary and for Delbert Allen and Wayne Archie to train in Beaufort Sea oceanography and ecology with LGL Limited.

• In collaboration with radio station CKNM-FM, the Science Institute produced "Simply Science," a series of 200 brief radio programs on scientific topics of interest to people in the western N.W.T. The scripts for these programs are also appearing in two northern newspapers.

Science fair winners Chris Harvey and Allison Marshall

• The information and education programs of the Science Institute have been generously supported by Science Culture Canada, a program of the federal government.

Summer Field Program

The Science Institute continued to work with the Northern Heritage Society to provide summer jobs in science for residents of the N.W.T. Last summer, the Institute provided $38,000 to help researchers hire northern residents as field assistants. The northern residents who participated in the program included:

Amon Akeeogak, Iqaluit
Jorgan Aitaok, Cambridge Bay
Frank Alainga, Iqaluit
Joe Amarualik, Resolute Bay
Lucy Appaqaq, Sanikiluaq
Alexander Buchan, Cambridge Bay
Albert Dick, Tuktoyaktuk
Joshua Enookoolook, Pond Inlet
Randy Hetchinelle, Fort Norman
Ron Horassi, Fort Norman
Wayne Kayatuk, Aklavik
Albert Kimaliarjuk, Rankin Inlet
Joe Kowtook, Sanikiluaq
Roger Memorana, Holman
Paul Mikiyungiak, Eskimo Point
David Nasagaluuk, Sachs Harbour
John Natar, Igloolik
Kidlapik Nakoolak, Coral Harbour
Harry Nungaq, Resolute Bay
Eric Oogark, Pelly Bay
Tommy Papatsie, Pangnirtung
Paul Ouliotalik, Igloolik
James Selamio, Aklavik
Doug Stern, Cambridge Bay
Debbie Webster, Baker Lake

TAKE A CLOSER LOOK AT THE SCIENCE INSTITUTE!

TAKE A CLOSER LOOK

The Science Institute of the N.W.T. is a young organization, yet already it has achieved a surprising degree of maturity. The Institute began life in 1985 as a division of a government department, with a staff of two and an annual budget of less than $400,000. Today, it is an independent territorial corporation, run by a public board, with 17 employees, facilities in Yellowknife, Inuvik, Igloolik and Iqaluit, and an annual budget of $1.9 million.

At the same time as the Institute has undergone this impressive physical and financial growth, it has also matured in its programs and policies. The Institute began with a clear vision of its overall purpose: to foster a resident scientific and technological community which contributes to the social, economic and cultural prosperity of the N.W.T. This purpose has now achieved expression through a broad program of services, which can be described under the following four headings:

- Research Support and Advisory Services
- Scientific Services (the Scientific Research Centres)
- Information and Education
- Technology Development

These activities are described in some detail in the accompanying report, and we believe they represent a creditable beginning towards achieving our overall goals. We would be among the first to admit, however, that many opportunities and challenges remain. These include:

• Northern research funding: Scientific and technological research is a tool for resolving problems and realizing opportunities. Nearly all the funding for northern research originates in southern Canada, where universities, scholars and research facilities are concentrated Understandably, research priorities are set there, too. A research fund, established and administered in the N.W.T., could be an effective vehicle for addressing northern social and economic priorities.

• Northern science policy: Despite the best efforts of the Inuit Circumpolar Conference and others, Canada still lacks a coherent and judicious approach to the conduct of scientific affairs in its northern regions. Indeed, the northern scientific effort is often uncoordinated, reactive, and constrained by bureaucratic mandates.

• Science and traditional knowledge: The N.W.T. is occupied by two of the world's most successful hunting cultures -- the Dene and the Inuit. Both traditions are rich in empirical knowledge. Obviously, people could not have survived on the land for

thousands of years without acquiring detailed knowledge of animal movements, breeding cycles, rates of reproduction and the like. To make wise decisions, our society needs the benefit of the information and understanding that derive from both aboriginal and scientific knowledge.

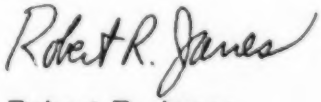
• Support for resident scientists: The N.W.T. has a small but vital group of resident scientists, the majority of whom work for the territorial and federal governments. With no university in the N.W.T. to facilitate sabbatical leaves, study tours, and the like, it is essential to explore other opportunities for the growth and development of northern scientists.

• Science, technology and sustainable development: It is time to translate the rhetoric into action by developing clean-water and clean-air technologies, based on sound scientific research.

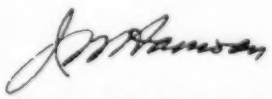
• Contaminants in northern food chains: This is perhaps the single, most important science issue that the N.W.T. has ever faced. We must seriously question whether current organizational structures, i.e. government departments, are equipped to handle such a complex, interdisciplinary scientific challenge. What alternatives can we devise to foster a sensible and effective resolution of these problems? It is also critical that resident infrastructure and expertise be developed in the N.W.T. to ensure systematic monitoring, as part of a long-term research design.

• Advanced post-secondary education: In the rest of Canada, universities serve as a focus for research -- centres that attract researchers, teachers, graduate students and funding. All these ingredients are necessary for science to prosper. Granted that a conventional university may not be appropriate in the N.W.T., can we invent a new kind of institution that will meet northern needs?

Admittedly, this list poses some extremely difficult questions, yet it by no means exhausts the challenges we face. If we decide to ignore these problems, they will not go away. Instead, they will become increasingly acute as current approaches outlive their usefulness. Now, more than ever, it is essential that we promote and support initiative, value risk-taking, and prepare ourselves to live with the consequences of our choices. In short, we must relentlessly question the status quo as we search for new ways of acquiring and using the knowledge we need to meet the future.



Robert R. Janes
Executive Director



James H. Harrison
Chairman

SCIENCE INSTITUTE OF THE NORTHWEST TERRITORIES

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Dr. Ernie Pallister

Ms. Elizabeth Crawford

Dr. Ross Mackay

Mr. Bob Hanson

Ms. Joanne Barnaby

Dr. Otto Schaefer

Ms. Sally Kusugak

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Dr. Otto Schaefer

Dr. Robert Janes *(ex officio)*

Priorities and planning committee

Ms. Elizabeth Crawford

Dr. Ernie Pallister

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Yellowknife

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Ms. Denise Sherritt

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Iqaluit Research Centre

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Igloolik Research Centre

Mr. John MacDonald

Mr. George Qulaut

Mr. Maurice Arnatsiaq

Inuvik Research Centre

Mr. John Ostrick

Mr. Maurice McRae

Ms. Vicki Anderson

AUDITOR'S REPORT

To the Board of Governors
Science Institute of the Northwest Territories

We have examined the balance sheet of the Science Institute of the Northwest Territories and the statement of revenue, expenditures and unexpected funds for the year ended March 31, 1989. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

In our opinion, these financial statements present fairly the financial position of the Institute as at March 31, 1989 and the results of its operations for the year then ended in accordance with the accounting principles as disclosed in Note 1, applied on a basis consistent with that of the preceding year.

Yellowknife, Northwest Territories
June 20, 1989

MacKay, Partners

MacKay and Partners
Chartered Accountants

SCIENCE INSTITUTE OF THE NORTHWEST TERRITORIES
STATEMENT OF REVENUE, EXPENDITURES AND UNEXPENDED FUNDS
FOR THE YEAR ENDED MARCH 31, 1989

	1989 Revised Budget	1989 Actual	1988 Actual
REVENUE			
Government of the Northwest Territories			
Department of the Executive	$838,400	$809,100	$-0-
Department of Renewable Resources	9,400	9,400	416,000
Department of Education	7,000	7,000	7,000
Water Board	-0-	-0-	2,606
Department of Public Works	4,000	4,000	-0-
Government of Canada			
Department of Indian and Northern Affairs	-0-	-0-	31,094
Employment and Immigration	-0-	-0-	8,015
National Research Council of Canada	42,000	42,454	-0-
Supply and Services Canada	42,500	42,426	20,783
Minister of State for Science and Technology	-0-	16,300	-0-
Environment Canada	-0-	-0-	5,000
Environmental Assessment Review Office	1,500	1,900	-0-
Science Council of Canada	0-	1,506	-0-
Interest income	18,900	28,971	8,441
Donations	6,500	6,500	7,300
Publications	-0-	216	105
Rental and services	8,800	9,555	-0-
	979,000	979,328	506,344
EXPENDITURES			
Salaries and benefits	463,000	432,724	240,085
Administration	84,100	74,990	59,563
Board of Governors	40,300	20,080	31,258
Chairman	14,000	9,833	13,979
Executive Director	14,000	13,646	18,874
Research assistance	41,000	37,095	32,894
Research	17,400	17,334	156
Information education	91,500	85,373	53,305
Conferences, workshops and symposiums	-0-	-0-	14,865
Industrial Research Assistance Program	28,000	26,471	-0-
Research Centre operations - Headquarters	34,700	32,988	-0-
Research Centre operations - Inuvik	44,000	17,953	-0-
Research Centre operations - Igloolik	28,400	25,978	-0-
Research Centre operations - Iqaluit	28,000	27,996	-0-
	928,400	822,461	464,979
INCREASE IN UNEXPENDED FUNDS FOR THE YEAR	$ 50,600	156,867	41,365
BALANCE, OPENING		104,558	63,193
BALANCE, CLOSING		$261,425	$104,558

SCIENCE INSTITUTE OF THE NORTHWEST TERRITORIES
BALANCE SHEET
AS AT MARCH 31, 1989

	1989	1988
ASSETS		
CURRENT		
Cash and term deposits	$ 430,644	$209,771
Accounts receivable	113,804	11,150
Prepaid expenses	225	250
	544,673	221,171
FIXED (Note 1)	581,377	57,376
	$1,126,050	$278,547
LIABILITIES		
CURRENT		
Accounts payable and accrued liabilities	$ 170,674	$ 57,439
Deferred revenue (Note 3)	112,574	59,174
	283,248	116,613
INSTITUTE'S EQUITY		
INVESTMENT IN FIXED ASSETS (Note 1)	581,377	57,376
UNEXPENDED FUNDS	261,425	104,558
	842,802	161,934
	$1,126,050	$278,547

APPROVED BY THE BOARD OF GOVERNORS:

_____ Chairman

_____ Governor

SCIENCE INSTITUTE OF THE NORTHWEST TERRITORIES
NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED MARCH 31, 1989

1. SIGNIFICANT ACCOUNTING POLICIES

A. Unrecorded Costs Paid by the Government of the Northwest Territories

The Government of the Northwest Territories provides approximately 1,850 square feet of office space, rent free. In addition, the Government provides telephone and mail services, printing, translation and library services, as well as other services that are under the Administration Agreement, without charge. No provision has been made for these costs.
The G.N.W.T. also provides 3 research centres, 5 scientific reserves and 2 field stations along with all maintenance and utilities related thereto, for the exclusive use of the Institute on a rent free basis. No provision for these costs is included in these financial statements.

B. Fixed Assets
The investment in fixed assets reflects the historical cost of all assets owned by the Science Institute which are capitalized on the balance sheet. Accordingly, depreciation is not taken on fixed assets and the investment in fixed assets is increased by fixed asset additions and reduced for disposals.

Office equipment and furnishings belonging to the Government of the Northwest Territories that were being used by the Institute were transferred to the Institute by the Administration Agreement on February 18, 1987 and recorded at values established by the Government of the Northwest Territories

Office equipment and furnishings associated with federal research facilities in the Northwest Territories were transferred to the Institute under an agreement dated November 18, 1988 and recorded at values established by the Government of the Northwest Territories.

Other fixed assets purchased by the Institute are expensed in the year of acquisition.

2. TRANSFER OF RESEARCH FACILITIES

Pursuant to an agreement dated November 18, 1988, the Government of Canada transferred its research facilities in the Northwest Territories to the Government of the Northwest Territories, who transferred the exclusive use and field stations along with ownership of all equipment related thereto to the Science Institute of the Northwest Territories

3. DEFERRED REVENUE

Deferred revenue represents monies committed for programs for which the expenditures have not yet occurred.

	1989	1988
Medical Research		
- Minister of Consumer Affairs	$100,839	$ 50,439
Slowpoke Reactor Program		
- Energy Mines and Resources Canada	7,000	7,000
Rayrock Program		
- Indian and Northern Affairs Canada	1,735	1,735
Science Fair Travel		
- Department of Education	3,000	-0-
	$112,574	$ 59,174

4. JURISDICTION OF INCORPORATION

The Science Institute of the Northwest Territories was established by an Act of the Government of the Northwest Territories in 1984.